
Research focus: Human exposure modeling, environmental geospatial analysis, and risk assessment. Passionate about exploring the intersection of environmental science and human health, particularly with respect to exposure to chemicals in the environment. Currently pursuing a Ph.D. in environmental science, focusing on the impact of global change scenarios on human and ecological exposure to agricultural and urban contaminants.

Education

March 2023 (anticipated) Ph.D. Environmental Science, Stockholm University, Stockholm, Sweden
Advisor: Matthew MacLeod, Ph.D.

July 2016
GPA: 3.45/4.00 M.S. Atmospheric Science, NC State University, Raleigh, NC
Advisor: Sandra E. Yuter, Ph.D.
Thesis: *Propagating, Cloud-eroding Boundaries in Southeast Atlantic Marine Stratocumulus*

May 2014
Magna Cum Laude B.S. Meteorology, NC State University, Raleigh, NC

Relevant Experience

April 2019-Present *Ph.D. Student and Marie Skłodowska-Curie Fellow, Stockholm University, Stockholm, Sweden*

- One of 13 Ph.D. students within the EU-funded ECORISK2050 project taking place across 8 European universities.
- Focus is on developing a novel exposure modeling framework for investigation of human and ecological exposure to agricultural and urban chemicals under different global change scenarios.

July 2016-March 2019 *Associate/Senior Health Scientist, ICF, Durham, NC*

- Conducted fate and transport modeling in support of the U.S. EPA's Risk and Technology Review investigating risk from persistent, bioaccumulative hazardous air pollutants.
- Conducted a risk assessment with the Colorado Department of Public Health and Environment investigating exposures to VOCs emitted from oil and gas operations.
- Performed inhalation exposure modeling with the U.S. EPA for the review of the National Ambient Air Quality Standard (NAAQS) for sulfur oxides.

Jan 2015-July 2016 *Graduate Research Assistant, NC State University*

- Investigated variability in marine stratocumulus clouds employing data from geostationary and polar-orbiting satellites and numerical weather models.

May 2012-Dec 2014 *Undergraduate/Graduate Research Assistant, NC State University*

- Conducted ice nucleation experiments on atmospheric aerosols.
- Participated in an ice nucleation instrument inter-comparison with colleagues from various national and international institutions.

Publications

- Holder, C., **Hader, J.**, Avanas, R., Hong, T., Carr, E., Mendez, W., Wignall, J., Glen, G., Wei, Y., Guelden, B.: Evaluating Potential Human Health Risks from Modeled Inhalation Exposures to Volatile Organic Compounds Emitted from Oil and Gas Operations (in preparation).
- Kosnik, M.B., Reif, D.M., Lobdell, D.T., Astell-Burt, T., Feng, X., **Hader, J.D.**, & Hoppin, J.A., 2019: Associations between access to healthcare, environmental quality, and end-stage renal disease survival time: Proportional-hazards models of over 1,000,000 people over 14 years. *PLoS ONE*, 14(3): e0214094, doi: 10.1371/journal.pone.0214094.
- Yuter, S.E., **Hader, J.D.**, Miller, M.A., & Mechem, D.B., 2018: Abrupt cloud clearing of marine stratocumulus in the subtropical southeast Atlantic. *Science*, 361(6403), 697-701, doi:10.1126/science.aar5836.
- Hiranuma, N., et al., 2015: A comprehensive laboratory study on the immersion freezing behavior of illite NX particles: a comparison of 17 ice nucleation measurement techniques. *Atmos. Chem. Phys.*, 15, 2489-2518, doi:10.5194/acp-15-2489-2015.
- Hader, J.D.**, Wright, T.P., & Petters, M.D., 2014: Contribution of pollen to atmospheric ice nuclei concentrations. *Atmos. Chem. Phys.*, 14, 5433-5449, doi:10.5194/acp-14-5433-2014.
- Wright, T.P., **Hader, J.D.**, McMeeking, G.R., & Petters, M.D., 2014: High relative humidity as a trigger for widespread release of ice nuclei. *Aerosol Sci. Technol.*, 48(11), i-v, doi:10.1080/02786826.2014.968244.
- Wright, T.P., Petters, M.D., **Hader, J.D.**, Morton, T., & Holder, A.L., 2013: Minimal cooling rate dependence of ice nuclei activity in the immersion mode. *J. Geophys. Res. Atmos.*, 118(18), 10,535–10,543, doi:10.1002/jgrd.50810.

Presentations

- Graham, S., & Glen, G., 2018: Introduction to APEX: Estimating Population-Based Air Pollutant Exposure, Dose, and Health Risk Workshop. *ISES-ISEE 2018 Joint Annual Meeting*, Ottawa, Canada. August 30th, 2018 (ancillary workshop; co-instructor).
- Graham, S.E., Langstaff, J., **Hader, J.D.**, Glen, G., and Levasseur, J., 2018: Estimating fine-scale temporal and spatial characteristics of SO₂ exposures using U.S. EPA's Air Pollutants Exposure (APEX) Model. *Abstracts, ISES-ISEE 2018 Joint Annual Meeting*, Ottawa, Canada. August 28th, 2018 (poster).
- Hader, J.D.**, 2015: Abrupt cloudiness transitions in the marine stratocumulus off the west coast of Africa. *Department of Marine, Earth, and Atmospheric Sciences Graduate Student Seminar*, North Carolina State University. October 23rd, 2015 (oral presentation).
- Hader, J.D.**, Petters, M.D., and Wright, T.P., 2014: Contribution of pollen to atmospheric ice nuclei concentrations. *Abstracts, Sixth Symposium on Aerosol-Cloud-Climate Interactions, 94th AMS Annual Meeting*, Atlanta, GA. February, 2014 (poster).

Affiliations

April 2019-Present Member, Society of Environmental Toxicology and Chemistry

April 2019-Present Member, Marie Curie Alumni Association

June 2018-Present Member, International Society of Exposure Science